C H A P T E R 3

Basic Unit Server Administration Tasks

These topics describe the basic administration tasks for Prime Network units:

- Overview of Prime Network Units, page 3-1
- Viewing Unit Properties, page 3-2
- Starting or Restarting a Unit and Checking AVM Status (networkctl), page 3-4
- Connecting and Disconnecting a Prime Network Unit, page 3-4
- Deleting a Prime Network Unit, page 3-5

See these topics for additional unit administration tasks:

- Advanced Administration for the Prime Network Gateway and Units, page 9-1
- Unit Server High Availability and AVM Protection, page 16-1

Overview of Prime Network Units

The interconnected fabric of units comprises the lowest level of the Prime Network architecture. Each unit manages a group of network elements. Units host the autonomous VNEs. This creates a fabric of interconnected VNEs which can intercommunicate with other VNEs (regardless of which unit they are running on).

Prime Network also provides a unit server high availability mechanism to protect the system in case a unit malfunctions. Unit availability is established in the gateway as the gateway runs a protection manager process which continuously monitors all units in the network. If the protection manager detects a unit that is malfunctioning, it automatically signals one of the standby servers in its cluster to load the configuration of the faulty unit (from the system registry), and to take over all of its managed network elements. The switchover to the redundant standby unit does not result in any loss of information in the system because all information is autodiscovered from the network, and no persistent storage synchronization is required. Units can only be designated as standby during the installation process.

For more information on unit server high availability, see Unit Server High Availability and AVM Protection, page 16-1.

![Note]

Note   The Prime Network system is usually configured with the unit server high availability mechanism enabled.

Viewing Unit Properties

When you right-click a unit and select **Properties**, Prime Network displays the unit properties, as shown in Figure 3-1. You must have Administrator privileges (user access role) to use this and all other functions in Prime Network Administration.

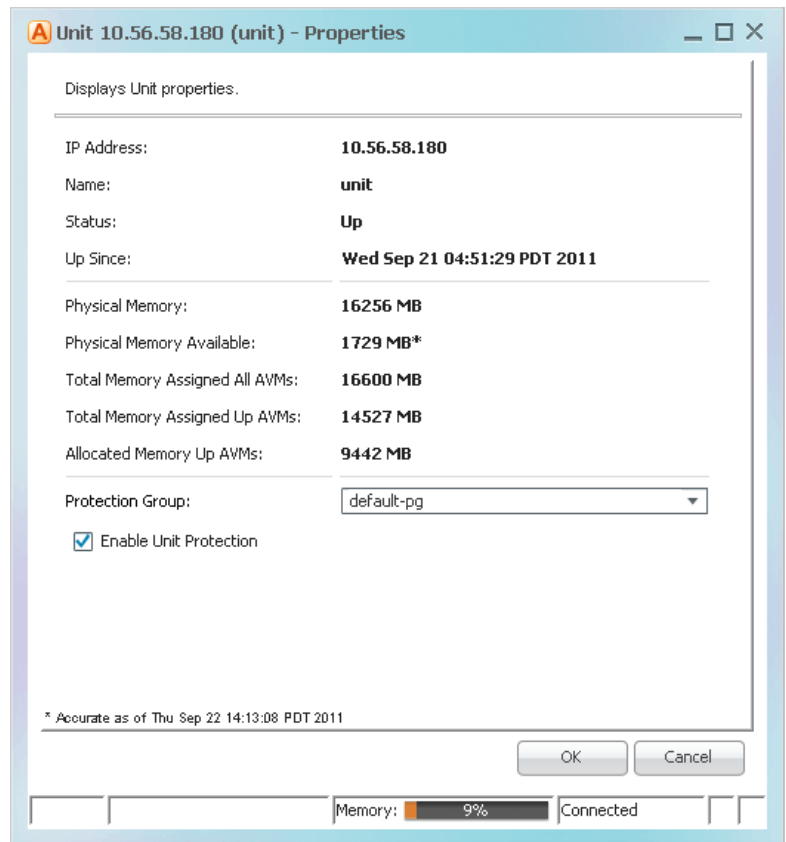*Figure 3-1*   *Viewing the Properties All Unit Servers*

Table 3-1   *Unit Properties*

Field	Description
Name	Name of the unit server.
IP Address	The IP address of the unit server. Units behind firewalls or NAT devices will have an IP address of **0.0.0.#**. This is an artificial IP address used by the gateway server.

Table 3-1   Unit Properties (continued)

Field	Description	
Status	The status of the unit: Up, Down, Unreachable, Disconnected.	
	Up	The unit process is reachable, was loaded, and has started.
	Down	The unit is reachable, but was stopped. This is the status when an **networkctl stop** command is issued. The unit is both operationally and administratively down.
	Unreachable	The unit cannot be reached by the gateway, so it cannot be managed.
	Disconnected	The unit was disconnected from the gateway (normally a temporary measure to address a problem).
Up Since	The date and time that the unit was last started.	
Physical Memory	The total physical memory on the unit (both free and in use).	
Physical Memory Available	Of the total physical memory on the unit, amount of memory that has not been assigned to any AVMs.	
Total Memory Assigned All AVMs	The total physical memory *apportioned to all AVMs* (both user-created and reserved), regardless of whether the AVMs are up or down. This figure does not reflect the memory that is in use by AVMs (that figure is represented by Allocated Memory Up AVMs). This total includes the additional 35% memory the operating system adds to the AVM size when the AVM is created. (See How Prime Network Allocates Memory to AVMs, page 4-2).	
Total Memory Assigned Up AVMs	The total physical memory *apportioned to Up AVMs* (both user-created and reserved). This figure does not reflect the memory is in use (that figure is represented by Allocated Memory Up AVMs). It includes the additional 35% memory the operating system adds to the AVM size when the AVM is created. (See How Prime Network Allocates Memory to AVMs, page 4-2).	
Allocated Memory Up AVMs	The total physical memory being used by Up AVMs (both user-created and reserved AVMs).	
Protection Group	If checked, the unit is using unit server high availability. The Protection Group drop-down lists shows the cluster that the unit belongs to. If any units in the cluster go down, a standby unit will take over. By default, all units are assigned to the default-pg protection group.	
AVM HA	Indicates whether AVM protection is enabled (true) on the unit. AVM protection monitors the AVM processes and restarts them in case of failure. This should always be enabled.	

When you select a specific unit in the navigation tree, the GUI client displays all of the AVMs in the unit including whether the AVM memory consumption is normal. That display is described in Viewing AVM Properties, page 4-6.

Note   How to add a unit is described in the *Cisco Prime Network 3.9 Installation Guide.*

Starting or Restarting a Unit and Checking AVM Status (networkctl)

You can use the **networkctl** command to check the status of all unit processes (including AVMs you created). Restarting a unit stops all AVM and VNE processes on that unit and restarts them. Given that the system saves part of its information within the process memory, restarting a unit causes some of the information to disappear. Therefore, it takes as long as the longest full polling cycle for the system to recover all information that was stored in the process memory prior to the restart. Data that was saved in persistent storage before restarting is available immediately.

Keep these items in mind when restarting a unit:

- Restarting a machine can cause some of the VNEs running on the machine to be reported as unreachable. This is due to handshake protocols with the unit that fail due to the unavailability of the VNEs.

- Restarting a machine stops all active queries, flows, and transactions that are currently being run within the VNEs that run on the restarted Prime Network unit.

You must have Administrator privileges (user access role) to use this and all other functions in Prime Network Administration.

To start or restart a unit:

Step 1   Log into the unit server as *network user* (where *network user* is the operating system account for the Prime Network application, created when Prime Network is installed; an example of *network user* is **network39**.).

Step 2   Change to the Main directory:

```
# cd $ANAHOME/Main
```

Step 3   Enter the following, substituting **start** or **restart** for *option*:

```
# networkctl option
```

The unit begins loading. The process might take a while to complete.

For more information on working with AVMs and understanding their status, see Reducing AVM Loads and Checking AVM Status, page 4-11.

Connecting and Disconnecting a Prime Network Unit

Disconnecting a unit allows you to temporarily stop unit-gateway communication. This provides a temporary state during which you can fix the unit problem without having to completely reconfigure the unit when you are done. For example, if a unit's Ethernet card went down and the unit became unreachable, you could do the following:

1. Disconnect the unit from the gateway, and move all AVMs and VNEs to a temporary unit.

2. Fix the Ethernet card problem.

3. Reconnect the unit to the gateway.

4. Move all AVMs and VNEs back to the unit.

As this scenario shows, even if a unit is in the Disconnected state, you can still, add, delete, start, stop, and update AVMs and VNEs on the unit.

If you disconnect a unit that is part of a protection group, this will not trigger starting the standby unit; the high availability will be temporarily disabled on the active unit that is being disconnected. You cannot disconnect a standby unit.

Reconnecting the unit restarts the unit and all AVMs and VNEs. Unit information is uploaded to the gateway server, and registry information is downloaded to the unit from the gateway.

Before You Begin

If the Event Collector (AVM 100) was enabled on the unit, you must enable an Event Collector on another unit. Otherwise the system will drop events.

1. Configure devices to forward events to the new Event Collector.

2. Enable AVM 100 on another unit, as described in Enabling a New Event Collector on a Unit, page 14-12.

To disconnect or reconnect a unit:

Step 1   In the Prime Network Administration window, select **All Servers**.

Step 2   Right-click the unit and choose **Disconnect**. (To connect, choose **Connect**.)

Step 3   If the unit is running, a warning will be displayed that says

Step 4   Confirm your choice. You can now delete the unit as described in Deleting a Prime Network Unit, page 3-5.

Deleting a Prime Network Unit

Follow this procedure to delete a unit. You can delete units that have a status of Down, Unreachable, or Disconnected.

You must have Administrator privileges (user access role) to use this and all other functions in Prime Network Administration.

Before You Begin

Delete all the VNEs and unreserved AVMs before deleting a unit; see Moving and Deleting AVMs, page 4-13. The reserved AVMs cannot be deleted.

Use this procedure to remove a unit:

Step 1   In the Prime Network Administration window, select **All Servers**.

Step 2   Right-click the unit that you want to remove, then choose **Delete**. A warning message is displayed.

Step 3   Click **Yes** to proceed or **No** to cancel the operation. A confirmation message is displayed.

Step 4   Click **OK**. The unit is deleted and is no longer displayed in the navigation pane and content area.